From: PETERSON Jenn L
To: Eric Blischke/R10/USEPA/US@EPA
Cc: Joe Goulet/R10/USEPA/US@EPA; rgensemer@parametrix.com; Burt Shephard/R10/USEPA/US@EPA
Subject: RE: Bioassays
Date: 07/10/2008 11:13 AM

I will probably not be able to look at the text of the problem formulation until this afternoon. However, on the model testing I will say that evaluating the new bioassay data is the best way to validate the model using reliability statistics. This can be done very easily, and perhaps DEQ can even do if we are provided the Round 2 FPM model and the Round 3 bioassay data electronically (didn't we request this?). Regardless, I will emphasize that future versions of the FPM will need to include reliability outputs that were requested in previous correspondence. There will still need to be decisions made as to the appropriate optimization of false positive and false negatives (speaking to point 1 in your list).

-Jennifer

-----Original Message-----
From: Blischke.Eric@epamail.epa.gov
[mailto:Blischke.Eric@epamail.epa.gov]
Sent: Wednesday, July 09, 2008 10:33 PM
To: Shephard.Burt@epamail.epa.gov; rgensemer@parametrix.com;
Goulet.Joe@epamail.epa.gov; PETERSON Jenn L
Subject: Bioassays

Burt et al - a couple quick points on the bioassay evaluation -

Speaking with John last week, he was disinclined to perform any testing of the models but would rather rerun the models with the new bioassay data. It is possible that the new bioassay could be tested against the full LRM (including non-site specific data) if we can get Jay to release it to the LWG.

I have made some final edits to the PF text. I have attached it here.

After speaking with Jennifer, I have allowed for some optimization steps regarding the models (item 7 below). The final text of what I plan on sending to John tomorrow is attached. Please get me any comments by mid-day Thursday. Once I hear back from John and get any final input on the PF text, we can send that along in a more formal manner.

Eric

Proposed text:

John, here is EPA's final proposal on the evaluation of bioassay data. Our project team had serious concerns with using the RSET approach. However, we are prepared to offer the following:

1) Evaluate the empirical toxicity data as we have described - a hit is a statistically significant difference from control for any of the four endpoints.
2) Substitute total biomass for the growth endpoint for both the Hyalella and the chironomus tests.
3) Empirical data will be further refined by classifying the toxicity tests into minor (10%) moderate (20%) and severe effects (30%).
4) For the LRM and FPM, we will pool the growth (biomass) and mortality endpoints for chironomus and again for Hyalella.
5) Pooling will be based on use of the most sensitive endpoint (growth or mortality) resulting two LRM and two FPM models.
6) For the purposes of the models, a hit will be defined for both growth (biomass) and mortality at the moderate (20%) threshold.
7) Depending on how the models work out, additional efforts to optimize the models may be necessary.

Please let me know whether this is acceptable and we will send you a revised problem formulation reflecting this approach.

Thanks, Eric
(See attached file: FinalDraftBenthicToxPF070908.doc)